FREEDOM
TECHNOLOGIES
INCORPORATED

March 14, 2007

***Ex Parte* Filing**

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Washington, DC 20554

Re: *Amendment of the Commission's Part 90 Rules in the 904-909.75 and 919.75-928 MHz Bands, WT Docket No. 06-49*

Dear Ms. Dortch:

We would like to make an ex parte filing with the enclosed attachment to provide additional information to the Commission pertaining to the above-referenced proceeding. This attachment is a spectrum utilization study of the 902-928 MHz spectrum in the Washington metropolitan area conducted by Progeny.

In accordance with Section 1.1206(b) of the Commission's Rules, please accept the original and one copy of this filing and the attached handout for submission. Should you have any questions or concerns in connection with this submission, please contact me at (202) 371-2800.

Sincerely,

Janice Obuchowski

Attachment

cc: Fred Campbell
Julius Knapp

ADVANCED IDEAS
IN COMMUNICATIONS

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902-928 MHz
Spectrum Utilization Study

WT Docket No. 06-49

Progeny LMS, LLC

March 14, 2007

Purpose

1. To profile activity in the 902-928 MHz band in representative urban and suburban environments

    a) To segregate activity in the band between LMS and non-LMS blocks of spectrum

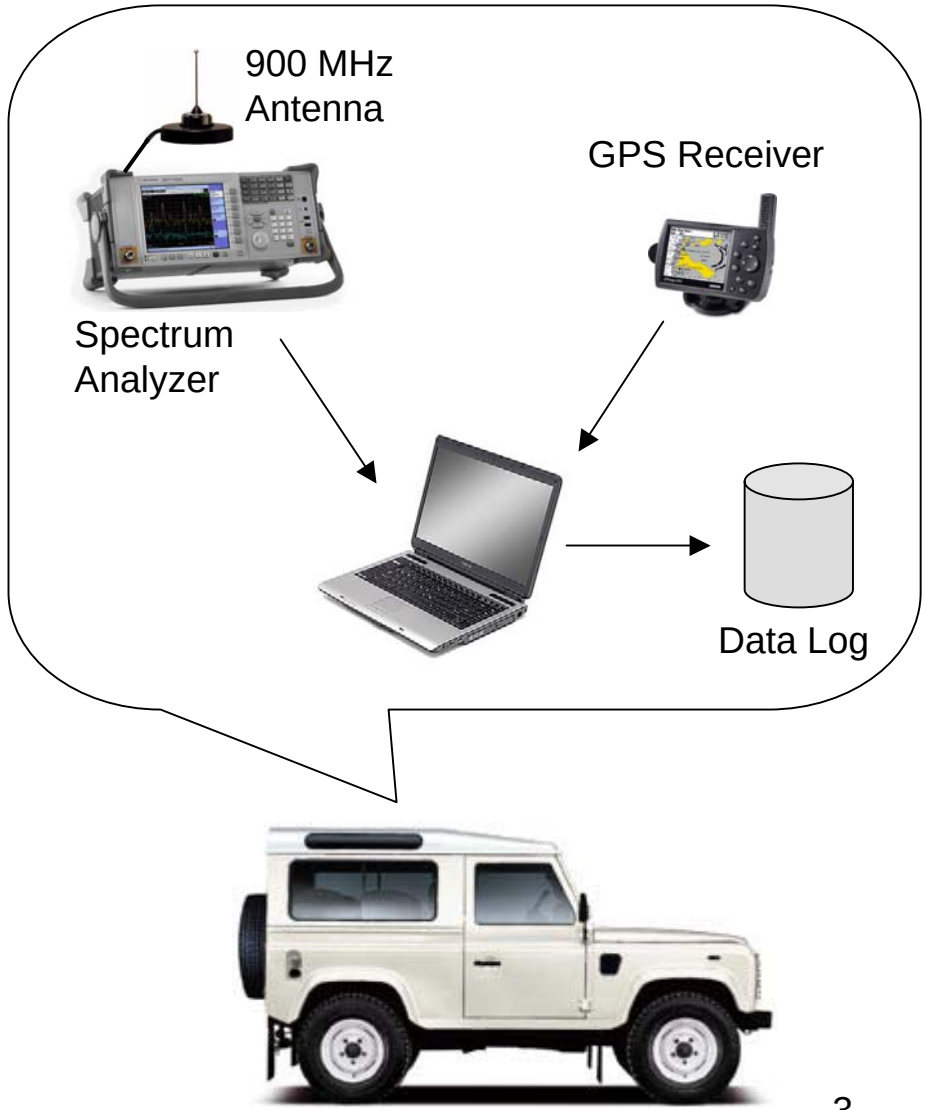
    b) To understand the nature of activity in the band – transient vs. persistent and narrowband vs. broadband

2. To quantify the utilization and efficiency of the band

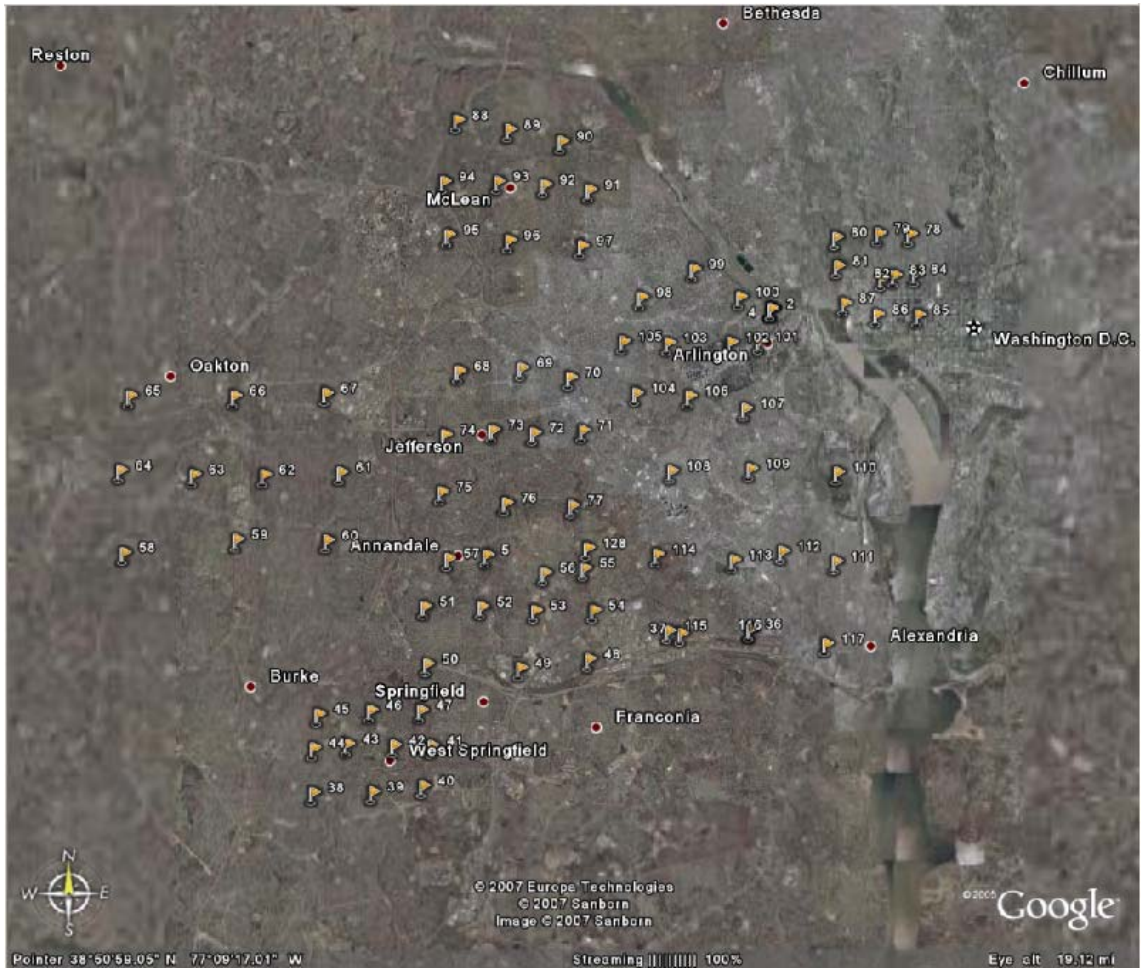
3. To determine the likelihood of Progeny's planned LMS system to cause or receive unacceptable levels of interference

Data Collection Methodology

- Location:
  - Washington, DC, metropolitan area
  - Urban, dense suburban, suburban areas
- Timeframe:
  - June 15-21, 2006
- Spectrum analyzer settings:
  - Sweep 902-928 MHz
  - 15-20 minute total scan time (except for 2 long dwell sites)
  - 500 kHz steps
  - 500 kHz resolution bandwidth
  - Peak hold mode
- Antenna + cable selected to add 0 dBi net gain

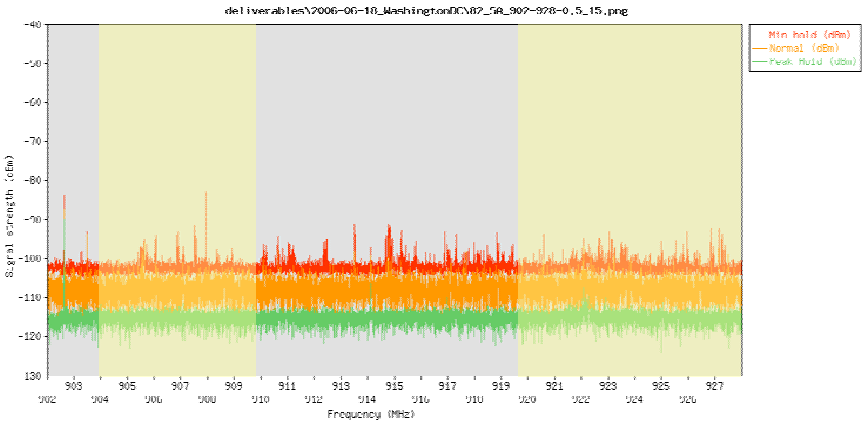


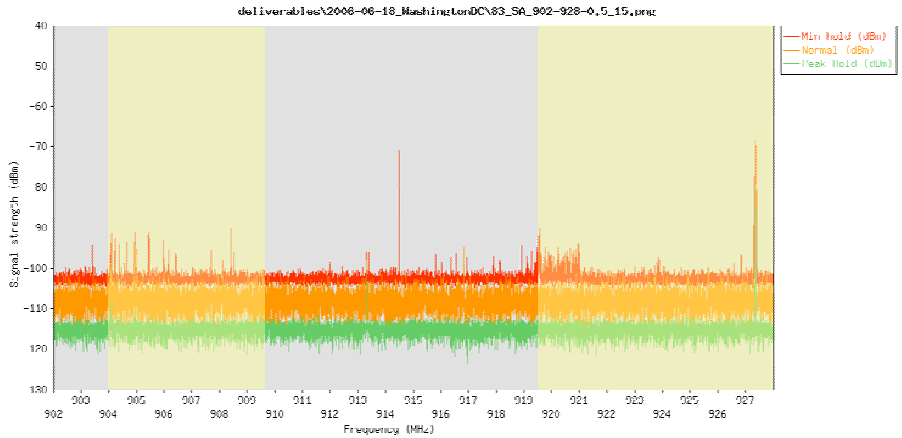
Geographic Perspective

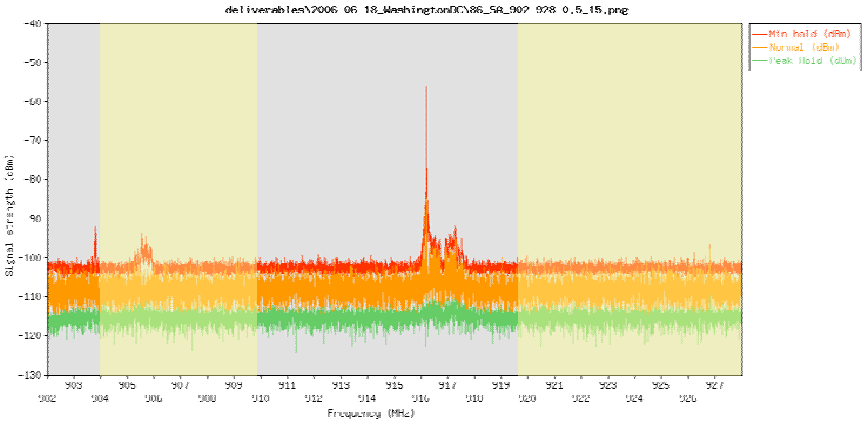


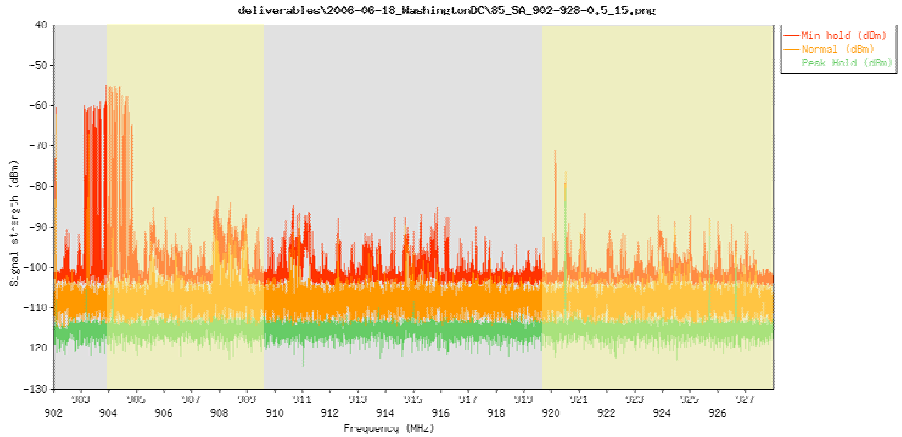
- 87 measurement locations
- 957,000 individual measurements

Typical Data – Urban (Washington DC)



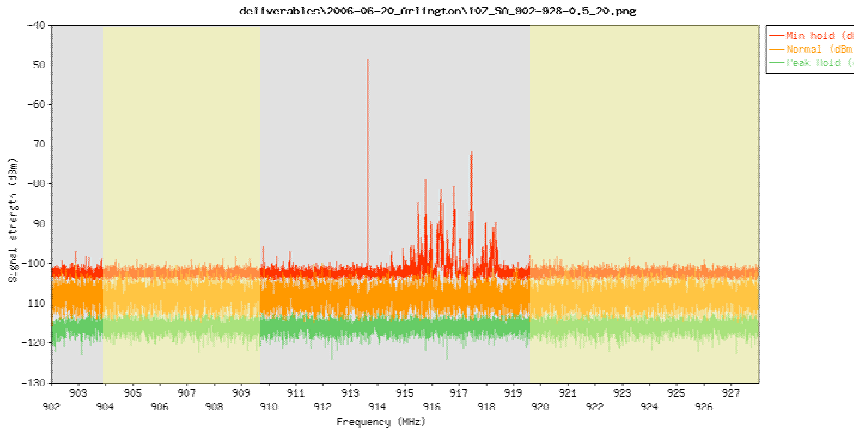


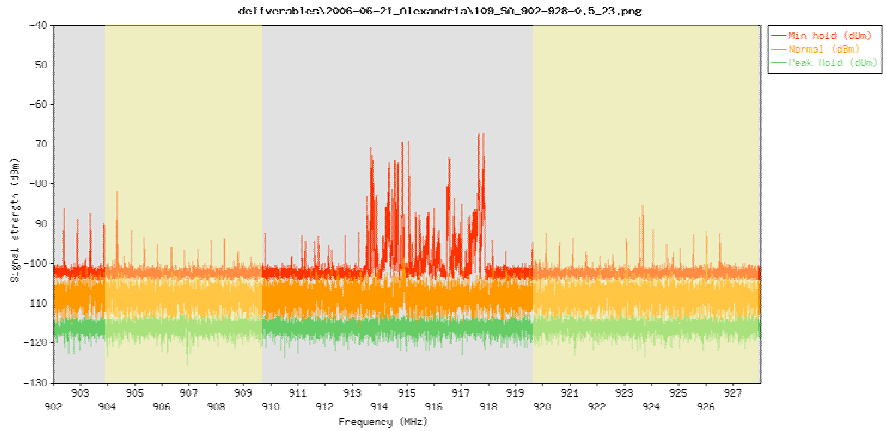


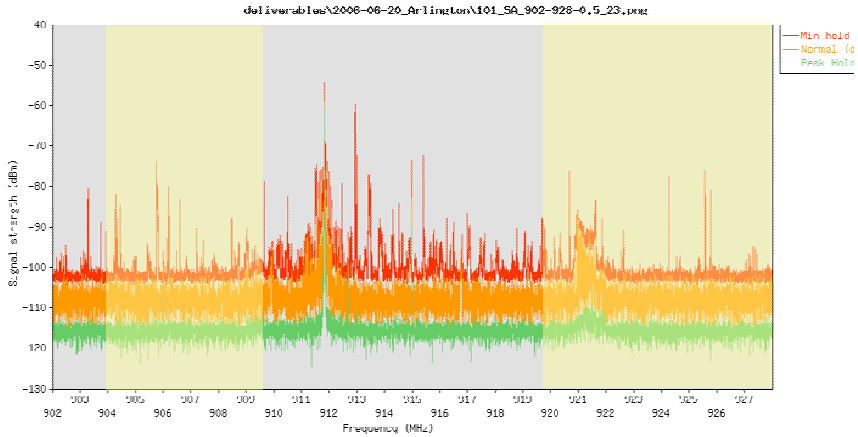


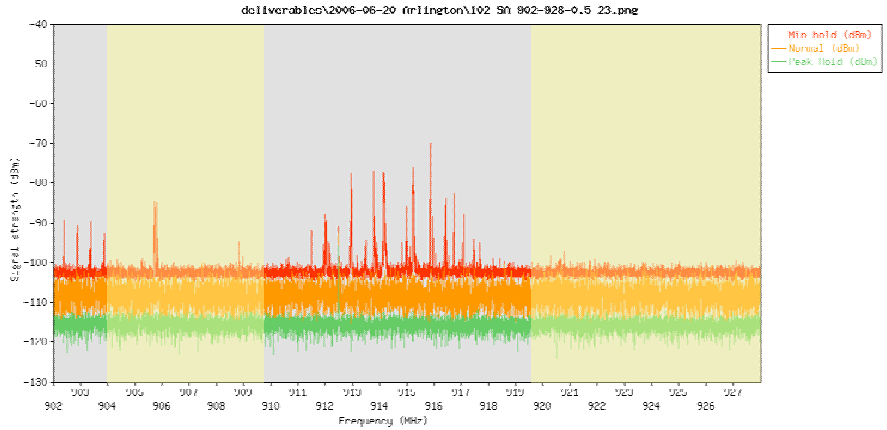
LMS Licensed Sub-band

Typical Data – Dense Suburban (Alexandria/Arlington)



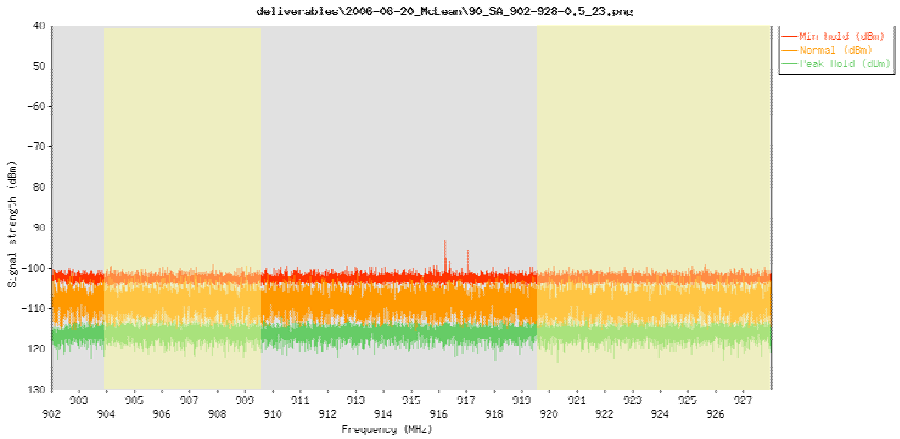


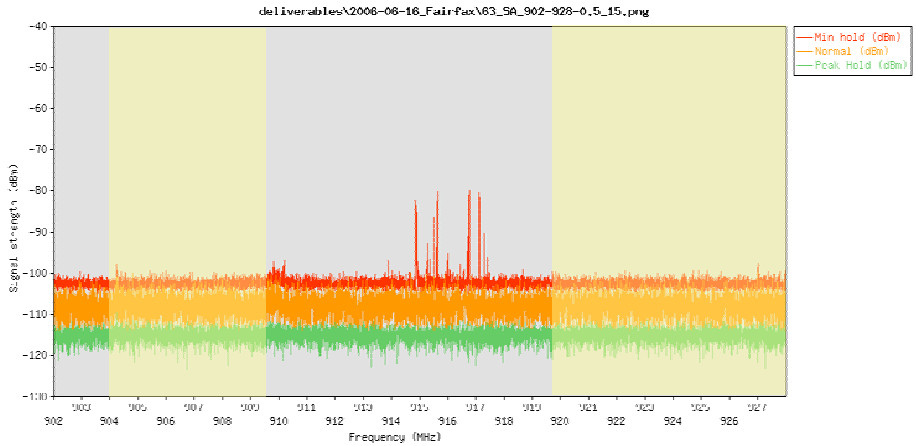


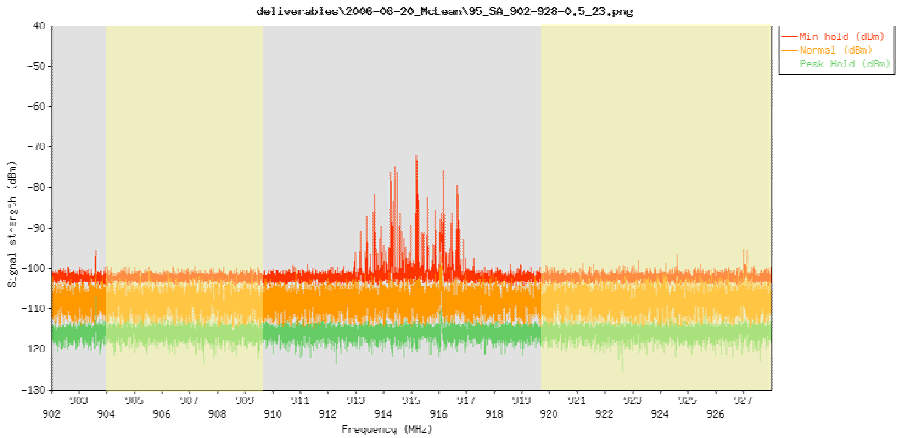


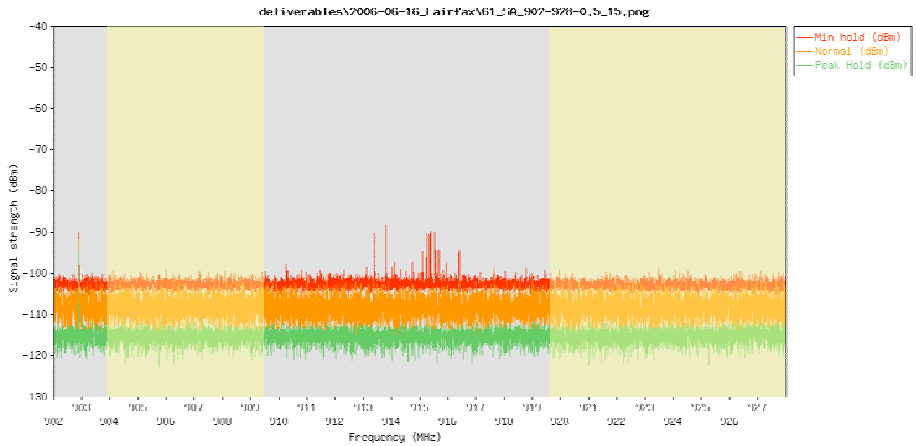
LMS Licensed Sub-band

Typical Data –Suburban (McLean, Oakton)



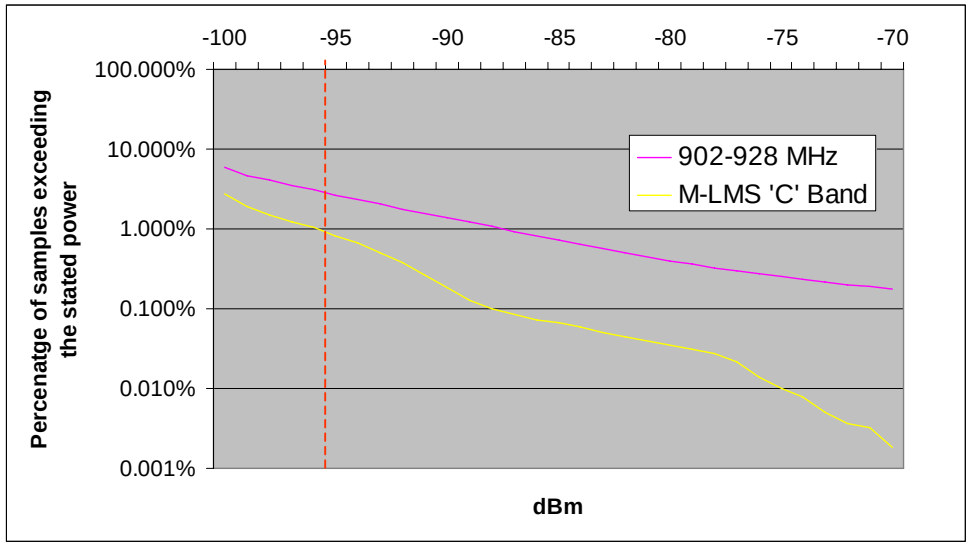






LMS Licensed Sub-band

How “busy” is the 902-928 MHz band?



- Busy = energy above a specified threshold
- At a threshold of -95 dBm, the entire band is 97.5% free and 2.5% busy
- At the threshold of -95 dBm, the LMS C Block is 99.2% free and only 0.8% busy
- Analysis based on reduction of all 957,000 data points collected

Conclusions

- The vast majority of devices operating in 902-928 MHz are transient and narrowband
- The majority of activity occurs in the 910-920 MHz range – outside the LMS licensed spectrum
- The 902-928 MHz band is very “quiet” from an energy perspective
- The 902-928 MHz band is not being used efficiently in the Washington, DC, Metro area
- Progeny’s planned LMS system is not likely to cause or encounter unacceptable interference